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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/851,465	05/05/1997	EDGAR C. ROBINSON	INT21246	5986

7590 03/09/2005

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EXAMINER

COCKS, JOSIAH C

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

54

Office Action Summary	Application No.	Applicant(s)	
	08/851,465	ROBINSON ET AL.	
	Examiner	Art Unit	
	Josiah Cocks	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE and response filed 2/11/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/11/2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,428,406 to Nutten et al. ("Nutten") in view of U.S. Patent no. 3,361,183 to Reichhelm ("Reichhelm") and U.S. Patent No. 4,061,463 to Bennett ("Bennett").

Nutten discloses in Figures 1-32 a liquid fuel burner assembly similar to that described in applicant's claims 1-8. In particular, Nutten shows an assembly comprising an air aspirated nozzle (40), a compressor to provide air under positive pressure to the air aspirated nozzle, a zero pressure regulator (60), a fuel supply tank to supply liquid fuel in liquid form and at ambient pressure to the air aspirated nozzle, the fuel entering the nozzle under negative pressure created by air entering the air aspirated nozzle under positive pressure, a manual isolation valve (58), a fuel control valve (110) configured to control liquid fuel supplied to the burner nozzle based on the air flow to the nozzle such that fuel flow is halted in the event of failure of the air flow, and pressure actuated arrangements for controlling flow of liquid fuel to the burner (see col. 9, lines 14-34). Nutten further discloses that air and fuel are combusted within a burner that is immediately adjacent to and downstream of the air-aspirated nozzle (40) (see col. 4, lines 28-32).

Nutten possibly does not disclose a manual metering valve interposed between the liquid fuel supply and air aspirated nozzle which is adjustable during operation of the burner assembly or that the burner is an infrared burner.

Reichhelm teaches a liquid fuel burner in the same field of endeavor as Nutten wherein the burner of Reichhelm includes manual air control (34) and liquid fuel control (22) valves, wherein during operation of the burner these valves are arranged to control/meter the fuel flow

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and the air flow in accordance with desired flame settings (see col. 6, lines 1-4) and to achieve desired characteristics of burner performance (see col. 5, lines 54-57).

Bennett teaches a liquid fuel burner in the same field of endeavor as Nutten wherein Bennett explicitly notes that infrared burners are simply a category of burner that includes the use of the burner in conjunction with a incandescent surface such that flames produced by the burner are not used for direct heating but are projected against the incandescent surface to radiate heat (see col. 1, lines 10-36 and col. 3, lines 15-18).

Therefore, in regard to claims 1-8, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the fuel control valve of Nutten to incorporate the metering/controlling mechanisms of Reichhelm for the desirable purpose of controlling air and fuel ratio such that desired characteristics of burner performance may be achieved (see Reichhelm, col. 5, lines 54-57) and a safety hazard may be prevented from occurring (see Nutten, col. 9, lines 28-34). Further a person of ordinary skill in the art would and modify the burner of Nutten to be an infrared burner as taught in Bennett as infrared burners are preferred when using liquid fuel because of their cleanliness and efficiency and because these burners minimize the possibility of flame quenching (see Bennett, col. 3, lines 18-27).

Response to Arguments

5. Applicant's arguments filed 2/11/2005 have been fully considered but they are not persuasive. At the outset, it is noted that Applicant asserts that claims 1-8 have been rejected over Reichhelm in view of Bennett. However, as clearly noted above (and in the prior Office

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Actions) the rejection applied by the examiner is on the basis of Nutten in view of Reichhelm and Bennett.

Applicant argues that there is no teaching or suggestion in the prior art reference to Reichhelm that only a fuel adjustment device is used. However, the examiner notes that applicant's claims do not require that "only" a fuel adjustment valve be present. As was indicated in the prior Final Rejection mailed 8/11/2004, Reichhelm clearly discloses an independent manual liquid fuel adjustment valve (22) that is adjustable during operation of the burner. This fuel adjustment valve desirably allows the fuel flow to be proportioned to produce a desired flame setting (see Reichhelm, col. 6, lines 1-4) and achieve desired characteristics of burner performance (see col. 5, lines 54-57). This manual fuel-proportioning valve (22) is identical in both structure and function to the valve recited in applicant's claims. That Reichhelm also includes a separate additional air-control valve (34) does not somehow cause applicant's claimed fuel adjusting valve to read over the fuel-adjusting valve (22) disclosed in Reichhelm. The air control and fuel control valves in Reichhelm are separate structures that function independently.

Applicant also argues that the manual fuel-metering valve of Reichhelm cannot be combined with Nutten but provides no substantive arguments as to why this is the case. The examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, as noted above,

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the teaching in Reichhelm of a manual fuel metering valve would suggest to a person of ordinary skill in the art that the burner of Nutten would be modified to include such a manual fuel metering valve to produce a desired flame setting (see Reichhelm, col. 6, lines 1-4) and achieve desired characteristics of burner performance (see Reichhelm, col. 5, lines 54-57).

Applicant further argues that the Bennett reference is not a helpful reference. However, as applicant has noted, the Bennett reference is simply cited to show that infrared burners are a recognized category of burner characterized in that flame as directed to contact an incandescent surface to radiate heat. These burners are recognized to be desirable because of their cleanliness, efficiency, and ability to minimize flame quenching (see Bennett, col. 1, lines 10-36 and col. 3, lines 15-27). The examiner considers that regardless of how the flame is produced, i.e. using pre-mixed fuel and air or mixing the fuel and air at the burner, a person of ordinary skill in the would consider the structure and function associated with an infrared burner to be desirable for the reasons noted.

Applicant's claims are not considered to recite any structure that is not present in the prior art relied upon by the examiner.

Conclusion

6. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114.

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See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

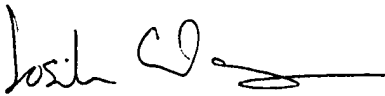
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (571) 272-4877. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://portal.uspto.gov/external/portal/pair>. Any questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

jcc
March 6, 2005



JOSIAH COCKS
PRIMARY EXAMINER
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